



# UNITED STATES PATENT AND TRADEMARK OFFICE

12  
UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/629,899      | 07/30/2003  | Fujio Akahane        | Q76765              | 6246             |

23373 7590 03/11/2005  
SUGHRUE MION, PLLC  
2100 PENNSYLVANIA AVENUE, N.W.  
SUITE 800  
WASHINGTON, DC 20037

EXAMINER

CRANE, DANIEL C

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

3725

DATE MAILED: 03/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

JP

|                              |                                      |                                       |  |
|------------------------------|--------------------------------------|---------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/629,899 | <b>Applicant(s)</b><br>AKAHANE ET AL. |  |
|                              | <b>Examiner</b><br>Daniel C Crane    | <b>Art Unit</b><br>3725               |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 8-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 17 and 33 is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 8-20, 25, 29-32 is/are rejected.
- 7) ☒ Claim(s) 4,6,21-24 and 26-28 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **PRIOR ART OF RECORD**

Upon further review of the art of record, the following action is herein made of record. The action is non-final in light of the fact that the application of art against the claims was not made as a result of applicant's amendment.

## **REJECTION OF CLAIMS ON FORMAL MATTERS**

Claims 31 and 32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The subject matter is contrary to the features claimed within claims 1 and 18, the claims from which claims 31 and 32, respectively, depend. Accordingly, the independent claims specify two dies, a second die and a third die, that cannot be read on a single die. Accordingly, the claimed subject matter of claims 31 and 32 is contrary to the claimed features and is therefore indefinite.

## **REJECTION OF CLAIMS OVER PRIOR ART**

Claims 1, 2, 3, 5, 18, 19, 20, 25 and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Schey (4,400,965). See Figures 4-10 where the claimed process is shown. In this regard, note that Schey shows an upper die 26, 31, a first lower die 27, a second lower die 34 and a third lower die 49. The unpenetrated hole is shown in Figure 6 where the first die 31 engages the metal board 15 and shapes the unpenetrated hole using the first lower die 27 and a second lower die 34. The flat portion on the unpenetrated hole is formed by the second lower die 34. The unpenetrated hole is punched by the upper die 31 in Figure 9 while the flat portion is

Art Unit: 3725

supported by a third lower die 49. The upper face is supported by the upper die 26. The upper die 26, 31 is provided with an opening or “draft” to receive the upper die 31.

Claim 8-16 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schey (4,400,965). Forming a plurality of holes in a one step process using the hole forming procedures taught by Schey would have been obvious to the skilled artisan in light of the fact that Schey’s subject matter is directed to hole forming in heat exchanger headers. Such would merely be a duplication of the operation. The sizing would be dependent upon particular use variations and would not affect the overall process. Removing burrs is a widely known manufacturing finishing operation and would have been obvious in Schey so as to provide the finished product with a final configuration.

Claims 1, 2, 3, 5, 12, 15, 18, 19, 20, 25, 31 and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Kondo (4,245,491). See Figures 3(II) and 3(III) where the upper die 3, 4 cooperates with a second/third lower die 1 so as to produce an unpenetrated hole (Figure 3(II)) while producing a flat portion on the protrusion followed by a step of punching the unpenetrated hole with the upper die 4 while supporting the flat portion in the second/third lower die (Figure 3(III)).

#### **INDICATION OF ALLOWABLE SUBJECT MATTER**

Claims 17 and 33 are allowed.

Art Unit: 3725

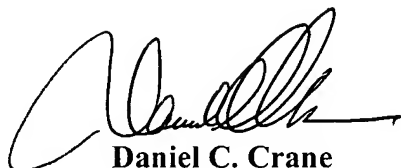
Claims 4, 6, 21-24 and 26-28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

## INQUIRIES

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner D. Crane whose telephone number is **(571) 272-4516**. The examiner's office hours are 6:30AM-5:00PM, Tuesday through Friday. The examiner's supervisor, Mr. Derris Banks, can be reached at **(571) 272-4419**.

Documents related to the instant application may be submitted directly to Group 3700 by facsimile transmission at all times. Applicant(s) is(are) reminded to clearly mark any transmission as "DRAFT" if it is not to be considered as an official response. The Group 3725 Facsimile Center number is **(703) 872-9306**.

DCCrane  
March 9, 2005



**Daniel C. Crane**  
Primary Patent Examiner  
Group Art Unit 3725